

What is claimed is:

1. A method for killing cancer cells comprising the step of administering to an individual suffering from cancer an amount of a Herpes simplex virus (HSV) comprising a modified HSV genome wherein said modification comprises a modification of an inverted repeat region of said HSV genome such that one $\gamma_134.5$ gene remains intact and said amount of HSV being effective to kill cancer cells.
2. The method of claim 1 wherein the modification of the inverted repeat region of the genome comprises an alteration of a copy of a $\gamma_134.5$ gene which renders that copy of the gene incapable of expressing an active gene product.
3. The method of claim 2 wherein the alteration of the $\gamma_134.5$ gene comprises an insertion of a DNA sequence comprising one or more nucleotides into the coding region or regulatory region of the gene.
4. The method of claim 2 wherein the alteration of the $\gamma_134.5$ gene comprises a deletion of all or part of the coding region or regulatory region of the gene.
5. The method of claim 1, 2, 3, or 4 wherein the modified HSV genome further comprises an alteration in a unique region of the HSV genome.
6. The method of claims 1, 2, 3, or 4 wherein the cancer is a noncentral nervous system cancer.
7. The method of claim 1, 2, 3, or 4 wherein the cancer is a central nervous system cancer.
8. The method of claim 5 wherein the cancer is non-central nervous system cancer.
9. The method of claim 5 wherein the cancer is a central nervous system cancer.